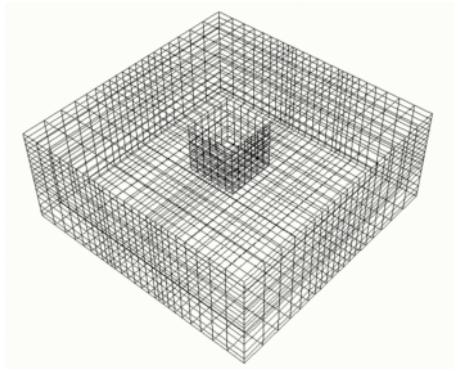


INTRODUCTION

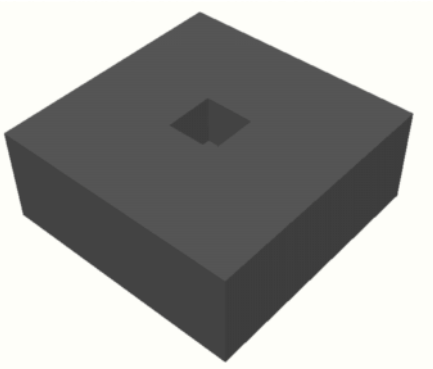
EnSight provides two basic drawing styles for graphics objects: line or shaded. Line mode draws only the line segments of an object – regardless of the whether the lines are polygon edges or not. Shaded mode displays all objects consisting of polygons (e.g. element or cell faces) as solid filled regions with light source shading enabled.

These drawing styles can be enhanced by enabling hidden-line mode. If the current mode is line, hidden-line will eliminate all those lines that would be invisible if the object were a solid surface. If the current mode is shaded, hidden-line mode will draw lines overlaying face edges. In shaded mode, hidden-line overlays are particularly useful for visualizing computational grids.

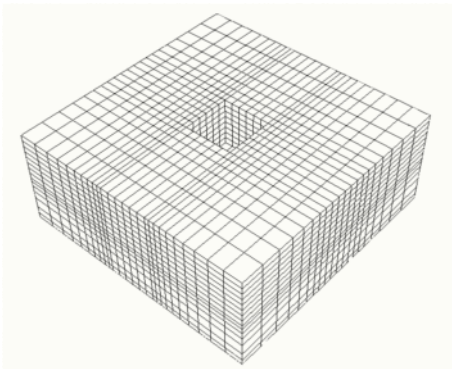
The setting of line or shaded mode is a global toggle. You can also set the mode on a per part basis so that some parts are displayed as lines and others as shaded surfaces. Each **viewport** also provides individual controls so that the drawing mode can differ from viewport to viewport.



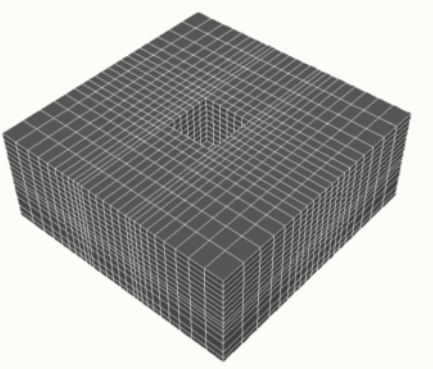
Line mode



Shaded mode



Hidden-line mode



Hidden-line overlay mode

BASIC OPERATION

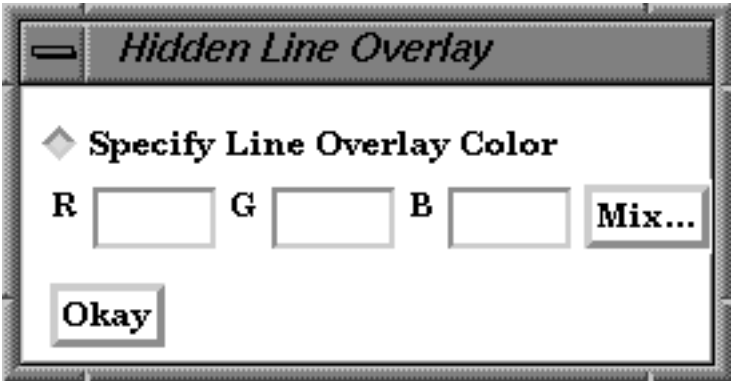
The global toggles for shaded and hidden-line mode are available in View mode or from the desktop. You can also enable these modes by selected View > Shaded or View > Hidden Line. To use the desktop toggles:

1. Click the **Shaded** toggle to switch from line to shaded mode (or vice-versa).
2. Click the **Hidden Line** toggle to enable or disable hidden-line mode.

☐ Shaded ☒ Hidden Line

The currently selected mode is indicated by toggle. Here, the mode is line with hidden-line enabled.

If the current mode is Shaded when you toggle on Hidden Line, the Hidden Line Overlay dialog is displayed. This dialog allows you to specify a color for the overlay edges. If Specify Line Overlay Color is not enabled, overlay color will be set to the native color of each part. If it is enabled, the color can be specified either by entering red, green, blue color values, or by clicking the Mix... button and picking a color with the standard **Color Selector** dialog.

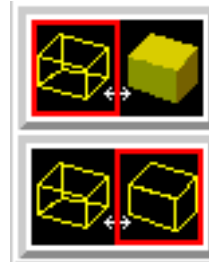


Note that hidden-line and hidden-line overlay are disabled during interactive transformations. The drawing calculations required for these modes can be quite substantial for large models – so much so that interactive manipulation would be unacceptably slow.



The per-part toggles for shaded and hidden-line mode are available in Part mode.

1. Select Part in the Mode Selection area.
2. Click the Shaded toggle to switch from line to shaded (or vice-versa).
3. Click the Hidden Line toggle to enable or disable hidden-line mode.

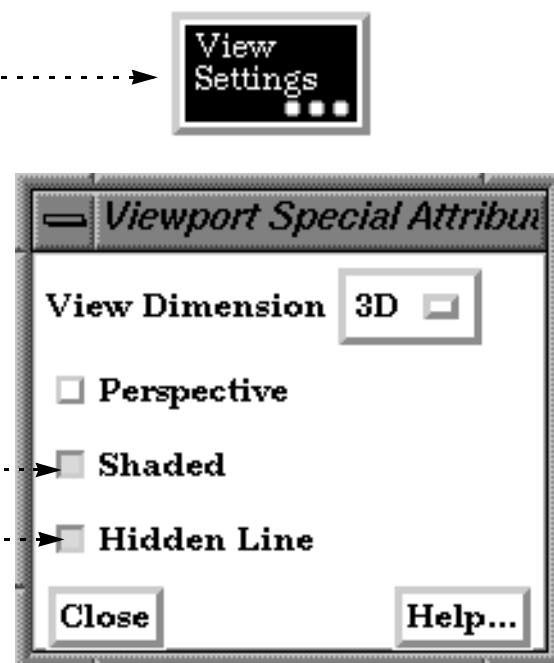


Note that enabling shaded mode for a part has no effect *unless* the global shading toggle is also enabled (on the desktop or in View mode). The same is true for hidden-line: unless the global hidden-line toggle is enabled, the part will be drawn without hidden lines.

ADVANCED USAGE

Drawing modes can also be set on a per-viewport basis. As with per-part settings, these toggles require that the corresponding global toggle is also set to have any effect.

1. Select VPort in the Mode Selection area.
2. Select (click in) the desired viewport in the Graphics Window.
3. Click View Settings... to open the Viewport Special Attributes dialog.
4. Click the Shaded button to disable shading in the current viewport.
5. Click the Hidden Line button to disable hidden-line in the current viewport.



OTHER NOTES

When a part is drawn in shaded mode (with or without hidden-line overlay) the surface is displayed with light source shading enabled. EnSight uses two pre-defined light sources: one at the look-from point (the camera) and one on the opposite side of the model (for back-lighting). In the current release, the location of the light sources cannot be changed. Subsequent releases will allow editing of lights (including position, color, *etc*).

In computer graphics, the appearance of a shaded surface is governed by a lighting model controlled by various parameters. In EnSight, these parameters are part of the part's attributes and can be changed on a per-part basis. See [How To Set Attributes](#) for more information.

SEE ALSO

User Manual: [Global Shaded](#), [Global Hidden Line](#)